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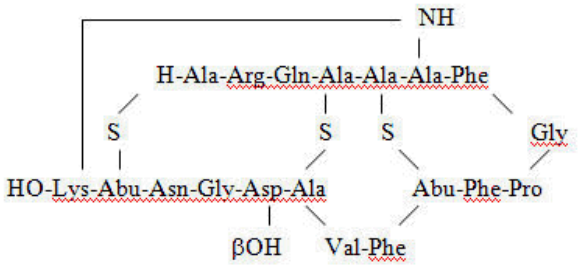
Product Information

Cinnamycin
from *Streptomyces cinnamoneus*

Catalog Number **C5241**
Storage Temperature 2–8 °C

CAS RN 110655-58-8
Synonyms: Ro 09-0198, Lanthiopeptin, NSC-71936



Product Description

Molecular formula: $C_{89}H_{125}N_{25}O_{25}S_3$
Molecular weight: 2041.29

Cinnamycin is a tetracyclic polypeptide antibiotic containing 19 amino acids. The polypeptide has the unusual amino acids *threo*-3-methyl-lanthionine, *meso*-lanthionine, lysinoalanine, and 3-hydroxyaspartic acid. It is produced by *Streptomyces cinnamoneus* and belongs to the duramycin-type lantibiotics. Lantibiotics are synthesized in the ribosome and undergo extensive post-translational modifications to attain their active antimicrobial form.[1-3]

The unique receptor for cinnamycin, phosphatidyl-ethanolamine (PE), is located on the inner leaflet of the plasma membrane.[5, 6] Cinnamycin induces transbilayer lipid movement leading to the exposure of PE to the outer leaflet of the plasma membrane.[2,5] The interaction of cinnamycin with PE provides a tool for PE monitoring.[6] Cinnamycin is active against Gram-positive rods such as *Bacilli*, *Clostyridium*, and *Mycobacterium*, causing cell wall biosynthesis stress.[2,4]

Cinnamycin, like other lantibiotics, was also reported to inhibit phospholipase A2 (PLA2).[1] It was suggested as an alternative treatment for atherosclerosis through its ability to inhibit PLA2 by binding to its substrate PE.[2,6] Moreover, cinnamycin was found to inhibit Herpes simplex virus (HSV-1) activity.[7,8]

Purity: ≥95% (HPLC)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Soluble at 10 mg/ml in DMSO and at 5 mg/ml in acetonitrile:water (1:1), requires heating.

Storage/Stability

Store the product sealed at 2–8 °C. Under these conditions the product is stable for at least 3 years. Water solution (1 mg/ml) is stable for one month.

References

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